

Cherokee County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/3/14

15 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Cherokee County economy.¹

These 15 sectors have a total direct output of approximately \$278 million and support 956.6 jobs in Cherokee County. Running the model for all 15 sectors simultaneously produces the following results:

Agriculture Contribution in Cherokee Co						
Impact Type ²	Employment	% Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	956.6	8%	70,285,364.9	9%	277,500,302.2	34%
Indirect Effect	246.6	2%	21,287,590.7	3%	36,498,232.4	4%
Induced Effect	228.1	2%	16,093,202.0	2%	25,650,634.5	3%
Total Effect	1,431.2	12%	107,666,157.7	13%	339,649,169.1	41%

As shown in the above table, agriculture, food, and food processing supports 1,431.2 jobs, or 12% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$340 million, roughly 41% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 15 agriculture, food, and food processing sectors is approximately \$108 million, or 13% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 13% of the total economy.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:

http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value added = labor income + indirect business taxes + other property type income.

⁴ GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

⁵ Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 332.9 employees. This table also shows the amount of jobs that are created by the agriculture industry in Cherokee County.

Description	Total Employment	Total Output
Grain farming	332.9	36,076,665.1
Oilseed farming	158.4	47,516,290.7
Animal production, except cattle and poultry and eggs	129.7	12,252,815.1
All other food manufacturing	119.9	38,498,974.0
Cattle ranching and farming	112.7	32,908,119.1
Real estate establishments	59.2	7,605,523.8
Civic, social, professional, and similar organizations	35.9	944,038.6
Pesticide and other agricultural chemical manufacturing	34.2	53,233,300.1
Food services and drinking places	33.6	1,803,514.9
Wholesale trade businesses	28.4	5,148,315.1

The Pesticide and other agricultural chemical manufacturing industry directly contributes approximately \$53 million to Cherokee County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Description	Total Employment	Total Output
Pesticide and other agricultural chemical manufacturing	34.2	53,233,300.1
Oilseed farming	158.4	47,516,290.7
All other food manufacturing	119.9	38,498,974.0
Grain farming	332.9	36,076,665.1
Cattle ranching and farming	112.7	32,908,119.1
Poultry and egg production	18.1	30,244,421.9
Other animal food manufacturing	12.1	17,478,116.1
Animal production, except cattle and poultry and eggs	129.7	12,252,815.1
Real estate establishments	59.2	7,605,523.8
Monetary authorities and depository credit intermediation activities	22.6	7,324,349.9

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Cherokee County's economy.

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All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.